

Accounting

College of Business

ACTG 244. Accounting for Non-Business Majors. 3 credits. *Offered fall and spring.*

For non-business majors only. Introduces basic business and accounting topics such as revenue, investments, expenditures, liabilities, credit, cash management, and taxation. Heavy emphasis is placed on the measurement of operating performance, and interpretation and use of accounting data for organizational decision-making. *Not open to College of Business majors.*

ACTG 302. Introduction to the Profession: Role of Accountants. 1 credit. *Offered fall.*

This class relies heavily on discussions with practicing accountants in public accounting, industry and government. Topics include career preparation and the role of accountants in business and capital markets. Written assignments are used to enhance communication skills. *Prerequisite: Completion of both COB 241 and COB 242 with a "B" or better. Prerequisite or corequisite: COB 300.*

ACTG 303. Basic Spreadsheet Skills for Accountants. 1 credit. *Offered fall and spring.*

This class provides students with hands-on learning and practice with basic Excel skills necessary in the workplace. Topics include creating and printing professional documents, navigating through workbooks, creating and editing formulas, using basic logical and statistical functions, and creating charts. *Prerequisite: Completion of both COB 241 and COB 242 with a "B" or better. Prerequisite or corequisite: COB 300.*

ACTG 304. Advanced Spreadsheet Skills for Accountants. 1 credit. *Offered fall and spring.*

This class provides students with hands-on learning and practice with advanced Excel skills. This class focuses on preparing students to become Microsoft Certified Application Specialists in Excel. Topics include customizing charts, using advanced financial, logical, and statistical functions, pivot tables and pivot charts, evaluation of formulas, and collaboration of workbooks. *Prerequisite: Completion of ACTG 303 with grade of "C-" or better.*

ACTG 313. Accounting Information Systems. 3 credits. *Offered fall and spring.* Covers the use of accounting systems for the collection, organization, analysis and reporting of accounting data. Topics include: internal controls, documentation of accounting systems, transaction processing cycles, auditing information technology, e-commerce, computer and information systems security, and integration of business functions in the accounting process. *Prerequisites or corequisite: ACTG 303. Prerequisite: ACTG 343 with a grade of "C-" or better.*

ACTG 343. Corporate Financial Reporting I. 3 credits. *Offered fall and spring.* Provides a theoretical framework to explain and critically evaluate financial reporting by businesses. In addition to studying the authoritative standards for preparing financial statements, students develop the ability to read, use, analyze and interpret financial statements. Students gain an understanding that managers can shape the financial information communicated to investors and creditors. *Prerequisites: Completion of both COB 241 and COB 242 with grades of "B" or better. Prerequisite or corequisite: COB 300.*

ACTG 344. Corporate Financial Reporting II. 3 credits. *Offered fall and spring.* Continues the development of a theoretical framework to read, use, analyze, interpret, explain and critically evaluate financial reporting by businesses. Selected topics include financial instruments, leases, pensions, deferred taxes, stockholders' equity and other corporate reporting issues. *Prerequisite: ACTG 343 with a grade of "C-" or better.*

ACTG 377. Federal Income Tax Accounting. 3 credits. *Offered fall and spring.* Designed to introduce students to the federal income tax system, including individual and business entity taxation. Topics include income, exclusions, deductions and property transactions. Also facilitates development of research skills. *Prerequisite or corequisite: COB 300. Prerequisite: Completion of both COB 241 and COB 242 with grades "B" or better.*

ACTG 410. Auditing. 3 credits. *Offered fall and spring.* A study of techniques available for gathering, summarizing, analyzing and interpreting the data presented in financial statements and procedures used in verifying the fairness of the information. Also emphasizes ethical and legal aspects and considerations. *Prerequisites: ACTG 313, ACTG 303 and ACTG 344 with grades of "C-" or better.*

ACTG 420. Operational Auditing. 3 credits. *Not currently offered.*

This course is a study of the basic principles and techniques of operational auditing. It covers organizing and conducting operational audit engagements and addresses regulatory compliance issues. *Prerequisites: ACTG 313 and ACTG 343 with grades of "C-" or better. Prerequisite or corequisite: ACTG 344.*

ACTG 440. Advanced Information Technology for Accountants. 3 credits. *Offered fall.*

This course is offered only for accounting majors seeking a minor in CIS. Topics include legacy systems, the systems development life cycle, telecommunications, distributed processing, networking and information security, taught from an accounting perspective. *Prerequisite: ACTG 313 with a grade of "C-" or better and declared CIS minor.*

ACTG 445. Selected Accounting and Reporting Topics. 3 credits. *Not currently offered.*

Focuses on the development and use of financial information as it relates to business combinations, governmental and public not-for-profit entities, and transactions and statements denominated in foreign currencies. In the context of the global accounting environment, students critically evaluate U.S. generally accepted accounting principles as they pertain to the topics covered. *Prerequisite: ACTG 343 with a grade of "C-" or better.*

ACTG 450. Governmental and Nonprofit Accounting and Reporting. 3 credits. *Not currently offered.*

Focuses on budgeting, accounting and financial reporting principles associated with private and public nonprofit organizations. Includes survey of state, local, municipal and federal government accounting. *Prerequisite: ACTG 343 with grade of "C-" or better. Prerequisite or corequisite: ACTG 344.*

ACTG 475. Accounting Decision Making and Control. 3 credits. *Offered fall and spring.*

The study of cost accounting concepts and information used by business organizations to make strategic, organizational and operational decisions. Topics include the role of planning and control in attaining organizational goals and objectives; the relationship among cost structure, cost behavior, and operating income; traditional and activity-based costing approaches to product costing, differential analysis in decision making; and ethical issues for accountants. *Prerequisite: ACTG 343 with a grade of "C-" or better. Prerequisite or corequisite: ACTG 304.*

ACTG 483. International Accounting and Financial Reporting. 3 credits. *Offered fall.*

Designed to develop a fundamental knowledge of the assumptions, environmental considerations and techniques underlying the collection and reporting of financial information on an international scale. *Prerequisites: COB 300. Open to international business majors only.*

ACTG 490. Special Studies in Accounting. 1-6 credits each semester. *Offered fall and spring.*

Designed to give capable students in accounting an opportunity to do independent study under faculty supervision. Admission only by recommendation of the instructor and permission of the director.

ACTG 499. Honors. 6 credits. *Year course. Offered fall and spring.*

See catalog section entitled "Graduation with Distinction" and "Graduation with Honors."

Africana Studies

Cross Disciplinary Studies

GAFST 200. Introduction to Africana Studies. 3 credits. *Offered fall and spring.*

An introductory survey of basic theoretical concepts to analyze the Black experience, with special focus on the general historical process common to Africa and the African Diaspora.

AFST 489. Africana Studies Senior Research Experience. 1 credit. *Offered fall and spring.*

In this research-oriented experience, students design and complete research projects relevant to their interests in Africana Studies, as well as connect their projects to previous course work and experiences within the Africana Studies minor. *Prerequisites: GAFST 200, senior standing and permission of instructor.*

AIRS

College of Education

AIRS 001. Leadership Laboratory. 0 credits. *Offered fall and spring.*

This course is a mandatory laboratory in leadership and followership development for AFROTC cadets. As a complement to the air science classes, this laboratory focuses on applying leadership principles and understanding leaders' responsibilities while emphasizing the benefits of practical experience. JMU students will take AFROTC classes at the University of Virginia for JMU credit. *Prerequisite: Permission of the instructor. Corequisite: Any Air Force ROTC class.*

AIRS 110. The Foundations of the United States Air Force. 1 credit.

Offered fall and spring.

This course introduces the United States Air Force and Air Force Reserve Officers Training Corps. Topics include mission and organization of the Air Force, officership and professionalism, military customs and courtesies, Air Force officer opportunities and communication skills. JMU students will take AFROTC classes at the University of Virginia for JMU credit. Students interested in joining Air Force ROTC should also register for AIRS 001, Leadership Laboratory. *Prerequisite: Permission of the instructor.*

AIRS 120. The Foundations of the United States Air Force. 1 credit.

Offered fall and spring.

This course introduces the United States Air Force and Air Force Reserve Officers Training Corps. Topics include mission and organization of the Air Force, officership and professionalism, military customs and courtesies, Air Force officer opportunities and communication skills. JMU students will take AFROTC classes at the University of Virginia for JMU credit. Students interested in joining Air Force ROTC should also register for AIRS 001, Leadership Laboratory. *Prerequisite: Permission of the instructor.*

AIRS 210. The Evolution of Air and Space Power. 1 credit. *Offered fall and spring.*

This course examines general aspects of air and space power through a historical perspective, from the first balloons and dirigibles to the space age global positioning systems of the Persian Gulf War. Topics include principles of war, tenets of air and space power, historical Air Force leaders, and employment of air and space power. JMU students will take AFROTC classes at the University of Virginia for JMU credit. Students interested in joining Air Force ROTC should also register for AIRS 001, Leadership Laboratory. *Prerequisite: Permission of the instructor.*

AIRS 220. The Evolution of Air and Space Power. 1 credit. *Offered fall and spring.*

This course examines general aspects of air and space power through a historical perspective, from the first balloons and dirigibles to the space age global positioning systems of the Persian Gulf War. Topics include principles of war, tenets of air and space power, historical Air Force leaders, and employment of air and space power. JMU students will take AFROTC classes at the University of Virginia for JMU credit. Students interested in joining Air Force ROTC should also register for AIRS 001, Leadership Laboratory. *Prerequisite: Permission of the instructor.*

AIRS 310. Concepts of Air Force Leadership and Management.

3 credits. *Offered fall and spring.*

This course studies leadership, management fundamentals and professional knowledge, Air Force personnel and evaluation systems, leadership ethics, and communication skills required of Air Force junior officers. The class examines Air Force leadership and management situations, using case studies as a means of demonstrating and applying the concepts under consideration. JMU students will take AFROTC classes at the University of Virginia for JMU credit. *Prerequisite: Permission of the instructor.*

AIRS 320. Concepts of Air Force Leadership and Management.

3 credits. *Offered fall and spring.*

This course studies leadership, management fundamentals and professional knowledge, Air Force personnel and evaluation systems, leadership ethics, and communication skills required of Air Force junior officers. The class examines Air Force leadership and management situations, using case studies as a means of demonstrating and applying the concepts under consideration. JMU students will take AFROTC classes at the University of Virginia for JMU credit. *Prerequisite: Permission of the instructor.*

AIRS 410. National Security Affairs/Preparation for Active Duty.

3 credits. *Offered fall and spring.*

This course examines the national security process, regional studies, advanced leadership ethics and Air Force doctrine. Topics include the military as a profession, officership, military justice, civilian control of the

military, preparation for active duty and current issues affecting the military profession. JMU students will take AFROTC classes at the University of Virginia for JMU credit. *Prerequisite: Permission of the instructor.*

AIRS 420. National Security Affairs/Preparation for Active Duty.

3 credits. *Offered fall and spring.*

This course examines the national security process, regional studies, advanced leadership ethics and Air Force doctrine. Topics include the military as a profession, officership, military justice, civilian control of the military, preparation for active duty and current issues affecting the military profession. JMU students will take AFROTC classes at the University of Virginia for JMU credit. *Prerequisite: Permission of the instructor.*

American Studies

Cross Disciplinary Studies

GAMST 200. Introduction to American Studies. 3 credits. *Offered fall*

and spring.

This interdisciplinary course will highlight the student's role in interrogating the cultural and political function of representations of America in literature, history, philosophy, religion, popular culture, music and art. Students will gain an understanding of why definitions of American identity matter and learn about the contemporary debates that inform the discipline of American Studies today. Questions about the changing role of national studies in the face of globalization are central.

AMST 490. Special Studies in American Studies. 3 credits. *Offered*

fall and spring.

Independent study of a topic appropriate to the interdisciplinary method of American studies.

Anthropology

Department of Sociology and Anthropology

KEY

A=Archaeology

F=Field Experience

B=Biological Anthropology

R=Required for All Anthropology Majors

C=Cultural Anthropology

W=Writing Intensive

GANTH 195. Cultural Anthropology. 3 credits (C,R). *Offered fall and spring.*

An introduction to the nature of culture and its relationship to language, economics, politics, kinship and other institutions in diverse cultures. The course also provides an overview of the theories, methods and ethical responsibilities involved in the study of cultural systems and ethnographic writing.

GANTH 196. Biological Anthropology. 3 credits (B,R). *Offered fall and spring.*

An introduction to the origins, evolution and genetic variability of humans and their relationship to nonhuman primates. Examination of the fossil record, the relationship between biology and culture and human genetics are included. Theories and methods used in the study of biological anthropology are also introduced.

ANTH 197. Archaeology. 3 credits (A,R). *Offered fall and spring.*

An introduction to archaeology through a survey of the major developments in human cultural evolution focusing on the transition from foraging to agricultural and state-level systems. An examination of the origins and nature of Old and New World civilizations and an overview of archaeological methods and theories are also included.

ANTH 201. The Discipline of Anthropology. 3 credits. *Offered as needed.*

This required course introduces students to the subdisciplines of cultural, biological, linguistic and archaeological anthropology and the logic of their integration within the larger discipline of anthropology. Students will be introduced to current research questions within anthropology and how they are addressed from the perspective of the various subdisciplines. *Prerequisites: Major status or permission of instructor. It is recommended that students have had at least one of the introductory-level ANTH courses (GANTH 195, GANTH 196 or ANTH 197).*

GANTH 205. Buried Cities, Lost Tribes: The Rise and Fall of Early

Human Societies. 3 credits. *Offered once a year.*

This course takes an archaeological and comparative perspective on the origins of human institutions, including art, architecture, religion, centralized political formations and urban life. The development and collapse of early societies in multiple world regions, including Mesopotamia, Egypt, the Indus Valley, Mesoamerica and the Andes will be explored.

ANTH 250. Anthropology of the American Southwest. 3 credits (A,C).*Offered fall.*

This course examines the development of Southwestern societies from early hunter-gatherers to the Native American communities of today. Major issues of anthropological interest, such as the adoption of agriculture, the development of village life, migration and abandonment, the spread of religious "cults," the extent of Mesoamerican influence, and the effects of the Spanish conquest are explored.

ANTH 265. Peoples and Cultures of Latin America and the Caribbean.3 credits (C). *Offered every three semesters.*

Anthropological and historical perspectives on the cultures of Latin America and the Caribbean through such themes as colonialism, nationalism, ethnicity, development, aesthetic traditions, gender, religion, and urban and rural resistance movements.

ANTH 280. Peoples and Cultures of Sub-Saharan Africa. 3 credits (C).*Offered fall.*

This is an introductory course emphasizing cultural diversity of sub-Saharan African societies. Basic anthropological concepts are used in analyzing African economics, political systems, marriage patterns and family organization, religious beliefs, and the impacts of colonialism and post-colonial development practices.

ANTH 295. Peoples and Cultures of East Asia. 3 credits (C).

This introductory course examines the peoples and cultures of the core East Asian countries—China, Japan and Korea. The course is organized around anthropological perspectives on topics such as nationalism, consumption, gender, ethnicity and development but also emphasizes the cultural, social and historical characteristics of various groups in these nations in addition to important cultural flows within region.

ANTH 300. Anthropology of Diet and Nutrition. 3 credits (B,C). *Offered**every three semesters.*

An evolutionary and cross-cultural perspective on diet and nutrition in human populations. Focus on how and why people choose what to eat, the range and significance of cross-cultural variability in diet, how diets have changed in the evolutionary and recent past, and the health and social significance of those changes. *Prerequisite: Any lower-level course in anthropology or permission of the instructor.*

ANTH/SCOM 305. Language and Culture. 3 credits. *Offered once a year.*

An introduction to linguistic anthropology. Explores the complex relationships between language and culture through topics such as language acquisition and socialization; language, thought, and worldview; language and identity; multilingualism; how and why languages change; literacy; and the politics of language use and language ideologies.

ANTH 310. Prehistoric and Pioneer Virginia. 3 credits (A). *Offered fall.*

A study of the development and diversity of Indian society in Virginia, the initial European settlement and westward expansion. Economic and social problems of initial settlement and the interaction between European and Indian cultures is emphasized.

ANTH 312. The Native Americans. 3 credits (C). *Offered every three semesters.*

A study of the nature of Indian societies occupying different environmental areas of North America at the time of earliest historic contact. Indian groups such as Shawnee, Mandan, Nuunamit, Natchez, Creek, Iroquois and Sioux will be considered.

ANTH/SOCI 313. Processes of Social and Cultural Change. 3 credits(A,C). *Offered spring.*

Investigates the procedures through which a society operates and the manner in which it introduces and incorporates changes. Issues considered include belief, innovation, directed change, coercive change, revitalization and revolution.

ANTH 315. Human Evolution. 3 credits (B). *Offered every three semesters.*

An overview of the fossil record and other evidence for human evolution. Discusses the emergence of the hominids as a lineage distinct from other apes. Provides evidence for the evolution of bipedalism, tool use, hunting/gathering, major increases in brain size, language, and material culture and the hypotheses that have been developed to explain the emergence of these characteristics. *Prerequisites: GANTH 196, or BIO 114 and BIO 124, or permission of the instructor.*

ANTH 322. Human Variation and Adaptation. 3 credits. *Offered once every two years.*

This course will assess human biology from an evolutionary and anthropological perspective, emphasizing an integrative, holistic understanding. The origin and current distribution of human biological variation will be explored,

including geographic, sex and individual variation. Health and disease, growth and development, aging, nutrition, and mental health will also be addressed.

*Prerequisite: GANTH 196 or consent of instructor.***ANTH 323. Visual Anthropology.** 3 credits. *Offered once a year.*

This course explores the anthropological use of visual data for the description, analysis, communication and interpretation of human behavior. Topics include biological, cross-cultural and historical understandings of vision; the social life of visual things; visual cultural production and consumption; and visibility after colonialism, globalization, and postmodernity.

ANTH 325. Aztec, Maya and Their Predecessors. 3 credits (A,C).*Offered every two semesters.*

Survey of the Olmec, Toltec, Teotihuacan, Maya and Aztec civilizations and the factors leading to their development, persistence and decline.

ANTH 327. Ancient North American Civilizations. 3 credits (A). *Offered**every three semesters.*

Studies the emergence of Native American societies prior to historic contact. Emphasizes prehistoric developments in the eastern United States.

ANTH/HIST 331. Historical Archaeology. 3 credits (A). *Offered spring.*

The course introduces students to the purposes, subject matter, methodology and historical background of the discipline of historical archaeology. Building on research issues and methodologies of anthropological archaeology and history, the multidisciplinary aspects of this field are introduced through field trips, projects, guest lectures, readings and classroom presentations. *Prerequisite: ANTH 197 or HIST equivalent.*

ANTH 333. Celts, Vikings and Tribal Europe: Art and Culture from**500 to 1100 AD.** 3 credits. *Offered every three semesters.*

Building on a heritage of archaeology, art, history, material culture, mythology and literature, the course introduces students to the cultures and traditions of the Celtic, Viking (Norwegian, Danish and Swedish), and Germanic tribal and theocratic cultures that shaped the early civilizations of northern Europe, Britain and Ireland from ca. 500 AD to 1100 AD.

ANTH 340. The Invention of Race. 3 credits (C). *Offered every three semesters.*

Examines the historical and cultural construction of race in Western thought. Themes include the origins of racial thinking, the slave trade, race and religion, race and science, the ways race is implicated in colonialism and nationalism, and the relation between race and other social qualities, including gender, class, sexuality and ethnicity.

ANTH 350. Magic, Witchcraft and Religion. 3 credits (C). *Offered fall.*

Anthropological study of religion in society. The influence of religion on the development of social, legal, governmental and economic aspects of culture is emphasized.

ANTH/SOCI 352. Birth, Death, Sex: Exploring Demography. 3 credits(B,C). *Offered every three semesters.*

Fertility (birth) and mortality (death) and their biological and social determinants in cross-cultural and evolutionary/historical frameworks. Exploration of the dynamic between the material constraints on and symbolic significance of reproduction, sexuality and death within a cultural context. Critical examination of population growth as a global "problem." Basic demographic methods. *Prerequisite: Any lower-level course in anthropology or sociology or permission of the instructor.*

ANTH 355. Culture and Ecology. 3 credits (C). *Offered spring.*

A comparative study of cultures from an ecological perspective. The course focuses on the effects of climate, environment and population interaction on shaping and determining human behavior. Basic ecological concepts and theories are introduced as they relate to the study and explanation of human behavior.

ANTH 360. Medical Anthropology. 3 credits (B,C). *Offered every three semesters.*

The evolutionary, ecological and sociocultural context of health and disease. A multi-level, cross-cultural exploration of disease including genetic and macro-level social inputs. Topics include Darwinian medicine, cultural ecology of infectious disease, including emergent diseases, the biology of poverty, maternal-child health and the history of global health problems. *Prerequisite: GANTH 195, GANTH 196 or permission of the instructor.*

ANTH 362. Evolution of the Human Brain. 3 credits. *Offered once every two years.*

A review of the evolution of the brain, focusing on the human species. The fossil evidence and current controversies and theories about human brain evolution will be covered, including the possible role of language, tool use, sociality and dietary shifts. Sex differences in brain and behavior, the evolution of consciousness, human ethics, and morals will also be discussed. *Prerequisite: GANTH 196 or consent of instructor.*

ANTH 364. U.S./Latin American Borders. 3 credits (C). *Offered every three semesters.* This course examines the experiences of Latin American migrants to the United States. It stresses the cultural expression of those experiences, globalization and its effects on local communities in Latin America, the U.S. responses to migration and migrants. *Prerequisite: One course on Latin America.*

ANTH 366. Anthropology of War. 3 credits (A,C). *Offered every three semesters.* This course examines the causes, conduct and consequences of warfare in non-state societies using both ethnographic and archaeological data. Case studies drawn from throughout the world are used to examine topics such as the co-evolution of war and society, the impact of colonialism on native warfare, the process of making peace, and claims about the biological "inevitability" of war.

ANTH/SOCI 368. Contemporary American Culture. 3 credits (C). *Offered occasionally.* This course analyzes contemporary American society in relation to popular cultural formations and representations. Cultural expressions found in music, literature, theatre, film, television, cyberspace and sports will be examined with respect to values, sentiments, identity constructions and lived experiences of differentially situated social actors.

ANTH 370. Topics in the Anthropology of Gender. 3 credits (C). *Offered every three semesters.*

This course examines the many ways in which gender is constructed and negotiated in different historical and social contexts. Topics will vary with the instructor to include both cultural and bicultural perspectives.

ANTH 373. Anthropological Perspectives on Environment and Development. 3 credits (C). *Offered spring.*

This seminar provides a history of key ideas and figures in environmental anthropology, as well as examines why this field is, by necessity, interdisciplinary. Within this context, we will use specific case studies to examine ways in which the concepts and theories of "development" and "environment" have been produced, perpetuated, manipulated and challenged in different geographic and politico-economic circumstances. *Prerequisite: GANTH 195 or permission of the instructor.*

ANTH 375. History of Theory in Sociocultural Anthropology. 3 credits (C,R,W). *Offered fall and spring.*

An examination of the major theoretical traditions in social and cultural anthropology. Important theoreticians and the historical contexts in which their work emerged are discussed. Fulfills the College of Arts and Letters writing-intensive requirement for the major. *Prerequisites: GANTH 195 and junior standing.*

ANTH 382. Cultures of Appalachia. 3 credits (C). *Offered occasionally.*

An overview of the peoples, cultures and special problems of the Appalachian region.

ANTH/SOCI 390. Topics in Cultural Studies. 3 credits (C).

This course explores contemporary culture through a "cultural studies" lens, an interdisciplinary perspective interested in using empirical knowledge to encourage more just human relations. Specific topics of investigation will vary by semester, but each course will cover cultural studies' intellectual history and its application to cultural expressions found in everyday life, film, music and text.

ANTH 391. Study Abroad. 1-6 credit hours (C,F). *Offered summer.*

Designed to encourage students to enhance their academic programs through studying abroad. Arrangements must be made with a faculty member who will direct the study with preparatory instructions and final requirements. *Prerequisites: Permission of department head.*

ANTH 395. Special Topics in Anthropology. 3 credits (May be A,B or C). *Offered occasionally.*

Examination of selected topics which are of current importance to anthropology. May be taken for a maximum of six hours credit toward the major.

ANTH 410. Spatial Analysis for Anthropologists. 4 credits. (A,B and C). *Offered every three semesters.*

The course teaches students how to identify and solve anthropological problems with spatial dimensions. Hands-on experience is stressed in the acquisition, analysis, and display of spatial data using Geographic Information Systems software. Topics include the mapping of race and ethnicity, the spatial distribution of cultural variables, and human modification and use of the landscape. *Prerequisites: GANTH 195, GANTH 196 or ANTH 197.*

ANTH 420. Evolution of Human Behavior. 3 credits (B). *Offered spring.*

An exploration of human behavior from an evolutionary perspective. Darwinism, life history theory and the fundamentals of heredity will be reviewed and employed in the analysis of human behavior from bipedalism

to morality. Data from the fossil and archeological records, genetics, non-human primate studies, and ethnographic fieldwork will be used. *Prerequisite: GANTH 196 or permission of the instructor.*

ANTH 435. Ethnographic Genres and Methods. 4 credits (C,F). *Once a year.* Explores ethnographic methods and conventions of ethnographic writing through close reading, analysis and production of ethnographic texts. Students develop critical skills in assessing ethnographic practice by examining how ethnographies are shaped by authors' fieldwork experiences, intellectual traditions and theoretical perspectives. Students engage in fieldwork and craft their own ethnographic accounts. *Prerequisite: ANTH 375.*

ANTH/HIST 436. Afro-Latin America. 3 credits.

Latin America and the Caribbean were the first and largest parts of the Western Hemisphere to be populated by Africans. Afro-Latin America examines cultural formations Africans brought to these regions. Beginning with an overview of the slave trade, it examines the histories of Africans and African-descent people throughout Latin America, as well as contemporary Afro-Latin American culture(s). *Prerequisites: One course in either Latin American or Africana studies (any discipline); upper-division status or permission of instructor.*

ANTH 455. Archaeology: Methods of Analysis and Interpretation. 4 credits (A,F). *Offered spring.*

A review of the nature of inquiry, recent theory and the means by which archaeologists acquire, analyze, and interpret their data. In addition to practical training in methods of analysis used in contemporary practice, students will gain experience in designing, conducting and reporting archaeological research. *Prerequisites: GANTH 195 and ANTH 197.*

ANTH 485. Anthropology Course Assistantship. 1-6 credits, only 3 of which can apply to the major (May be A,B or C). *Offered fall and spring.*

Students participate as course assistants in anthropology. Assistantships provide students with a sense of what it is like to teach an anthropology course by allowing them to work closely with faculty members through different phases of course preparation, presentation and evaluation. Assistantships also allow for a deeper understanding of course material by providing opportunities for student assistants to lead discussion and to help their peers review the material outside of the classroom. *Prerequisites: Students must have junior/senior standing, must have earned a grade of "B" or better in the course for which s/he will serve as assistant, and may register by faculty invitation only.*

ANTH 486. Internship in Anthropology. 1-6 credits (May be A,B or C). *Offered fall and spring.*

Designed to encourage students to enhance their academic programs by employing and refining anthropological skills through internships in public or private agencies. Arrangements must be made with a faculty member who will oversee the internship. *Prerequisite: By permission only.*

ANTH 490. Special Studies in Anthropology. 1-3 credits (May be A,B or C). *Offered fall and spring.*

Course offers students an opportunity to do independent study under staff supervision. Admission only by recommendation of the instructor and permission of the department head.

ANTH/ARTH/HIST 492. American Material Culture. 3 credits (A). *Offered every two semesters.*

A broad introduction to the multidisciplinary "field" of material culture studies through readings, written assignments, in-class exercises and field trips. The course introduces ways of looking at and learning from objects and examines how scholars from several disciplines have used material culture in their work. *Prerequisite: HIST 395. Instructor's permission required to waive HIST 395 prerequisite for non-history majors.*

ANTH 494. Field Techniques in Archaeology. 4-8 credits (A,F). *Offered summer.* Laboratory course directed at teaching students the basic field techniques and procedures of historic and prehistoric archaeology. Classroom lectures will present techniques and relevant aspects of method and theory.

ANTH/HIST 496. Research Thesis. 2 or 4 credits (A). *Offered fall and spring.* Students will gather, analyze and interpret archaeological/historical data over two semesters. Students will work on a project that demonstrates theory, research design, data gathering and analysis, culminating in a written thesis. The course meets the capstone requirement for the historical archaeology minor but is also available to students in history and anthropology. *Prerequisite: Junior or senior standing.*

ANTH 499 A,B,C. Honors. 6 credits. Year course (May be A,B or C). *Offered fall and spring.*

An independent research topic initiated and completed by qualified senior majors who want to graduate with distinction.

Arabic

Department of Foreign Languages, Literatures and Cultures
ARAB 101-102. Elementary Arabic (4, 1). 4 credits each semester.

Offered fall and spring.

The fundamentals of Modern Standard Arabic through listening, speaking, reading and writing. Practice in pronunciation and development of comprehension. One hour of work a week in the language laboratory.

ARAB 111-112. Intensive Arabic. 6 credits each semester. *Offered May and June.*

The fundamentals of Arabic through listening, speaking, reading and writing. The first semester is the equivalent of ARAB 101-102 and the second is equivalent to ARAB 231-232. Offered May and June summer term only.

ARAB 231-232. Intermediate Arabic. 3 credits each semester. *Offered fall and spring.*

A thorough review of grammar, vocabulary building, conversation, composition and reading. *Prerequisite: One year of college Arabic or equivalent.*

ARAB 300. Arabic Grammar and Communication. 3 credits. *Offered fall.*

Intensive training in grammatical structures and their application to oral and written communication. Instruction is in Arabic. Fulfills the College of Arts and Letters writing-intensive requirement for the major. *Prerequisite: ARAB 232.*

ARAB 320. Arabic Oral and Written Communication. 3 credits.

Offered spring.

Intensive training in the use of modern, everyday Arabic with emphasis on conversation and composition. Readings in Arabic will provide a context for discussion and writing. *Prerequisite: ARAB 300.*

ARAB 400. Arabic Advanced Conversation. 3 credits. *Offered fall.*

Discussions deal with topics of current interest. *Prerequisite: ARAB 320.*

Art

School of Art and Art History

ART 102. Two-Dimensional Design (0, 6). 3 credits. *Offered fall and spring.*

Application and appreciation of the principles and elements of design, with emphasis on line, form, color and texture as applied to two-dimensional space. Formerly ART 140.

ART 104. Drawing I (0, 6). 3 credits. *Offered fall and spring.*

An introductory course composed of problems in landscape, perspective, figure and still-life in several media. Formerly ART 160.

ART 106. Three-Dimensional Design (0, 6). 3 credits. *Offered fall and spring.*

A course exploring the basic problems in three-dimensional design. Formerly ART 240.

ART 108. Drawing II (0, 6). 3 credits. *Offered fall and spring.*

A continuation of ART 104 involving more complex problems with emphasis on composition and expressive possibilities of a variety of media including ink, pencil, conte, charcoal and experimental materials. *Prerequisite: ART 104 or permission of the instructor. Formerly ART 260.*

GART 200. Art in General Culture. 3 credits. *Offered fall and spring.*

An exploratory course that aims to develop a non-technical, general cultural understanding of the space arts, such as architecture, painting, sculpture and industrial design. Emphasis is on the contemporary.

ART 205. Foundations Seminar. 3 credits. *Offered fall and spring.*

A required course for studio art majors focused on the exploration and exchange of ideas related to embarking on a studio art career. Contemporary issues and responsibilities faced by emerging artists are emphasized. Students will investigate various visual art disciplines offered by JMU, write an artist's statement, and construct a Web site and digital portfolio. *Corequisites: ART 102, ART 106 and GARTH 206. Formerly ART 280.*

ART 210. Animation: 3-D Modeling (0, 9). 3 credits. *Offered fall and spring.*

An introduction to the techniques of 3-D modeling in computer animation. Lectures, demonstrations and projects will involve the professional gaming and animation studios' methods of modeling digital characters and objects. *Prerequisites: ART 102 and ART 104. Formerly ART 348.*

ART 212. Animation: 3-D Character Animation (0, 9). 3 credits. *Offered fall and spring.*

An introduction to the techniques of 3-D animation. Lectures, demonstrations and projects will involve the professional gaming and animation studios' methods of animating digital characters, objects and dynamic forces. *Prerequisites: ART 102 and ART 104. Formerly ART 349.*

ART 220. Introductory Ceramics: Potter's Wheel (0, 9). 3 credits.

Offered fall and spring.

Explores the aesthetics, conceptualization and design of functional objects. Investigates tactility and the process of realizing form and the effective use of the wheel as a creative tool. Introduces historic and contemporary approaches, firing techniques, and glaze application. *Prerequisites: ART 102, ART 104 and ART 106. Formerly ART 225.*

ART 222. Introductory Ceramics: Handbuilding (0, 9). 3 credits.

Offered fall and spring.

Forming techniques will be explored for both vessel and sculptural work. Addresses construction concerns such as timing, structure and mass. Conceptual issues of hand-formation and ceramic sculpture discussed. Introduces historic and contemporary approaches, firing techniques and glaze application. *Prerequisites: ART 102, ART 104 and ART 106. Formerly ART 226.*

ART 230. Weaving and Other Fiber Arts (0, 9). 3 credits. *Offered fall and spring.*

Introduction to and practice in basic weaving and other fiber arts. Emphasis will be placed on floor loom weaving and surface design on the fabric. *Prerequisites: ART 102 and ART 104. Formerly ART 321.*

ART 240. Metal and Jewelry (0, 9). 3 credits. *Offered fall and spring.*

An introduction to designing and executing jewelry and related objects through various fabrication and finishing techniques, and the exploration of metal as a medium of personal aesthetic expression. *Prerequisites: ART 102 and ART 104. Formerly ART 322.*

ART 242. Color Theory (0, 6). 3 credits. *Offering varies.*

An exploration of the nature and theories of color. Students will study the expressive and symbolic qualities of master colorists and apply this knowledge to theoretical and practical problems. *Prerequisite: ART 102.*

ART 260. Introductory Photography: Black and White (0, 9). 3 credits.

Offered fall and spring.

A creative approach to photography with emphasis on understanding materials and techniques. (Students must provide a fully manual 35mm camera and a light meter which may be built into the camera or separate.) *Prerequisites: ART 102 and ART 104. Formerly ART 255.*

ART 270. Printmaking: Screenprint (0, 9). 3 credits. *Offered fall and spring.*

An introduction to the history and techniques of screenprinting. Lectures, demonstrations and projects will involve photographic and nonphotographic stencils, related digital processes and color registration. *Prerequisites: ART 102 and ART 104. Formerly ART 352.*

ART 272. Printmaking: Relief, Intaglio and Monotype (0, 9). 3 credits.

Offered fall and spring.

An introduction to the history and techniques of relief, intaglio and monotype printing. Lectures, demonstrations and projects will involve oil based and water soluble inks, linocut, woodcut, wood engraving, collagraph, drypoint, engraving, line etching, aquatint, softground, color registration, and related photographic processes. *Prerequisites: ART 102 and ART 104. Formerly ART 353.*

ART 274. Printmaking: Lithography (0, 9). 3 credits. *Offered fall and spring.*

An introduction to the history and techniques of lithography printing. Lectures, demonstrations and projects will involve stone and plate lithography, color registration and related photographic processes. *Prerequisites: ART 102 and ART 104. Formerly ART 354.*

ART 280. Sculpture (0, 9). 3 credits. *Offered fall and spring.*

Problems in three-dimensional form using traditional and modern techniques. Processes of modeling in clay, mold making, casting, carving in wood and stone, and welded metal sculpture are explored. *Prerequisite: ART 106. Formerly ART 335.*

ART 304. Methods of Art Criticism. 3 credits. *Offered fall and spring.*

The practical analysis and interpretation of works of art through oral and written forms. Emphasis is on the practice of art criticism in public settings, such as the school classroom, art museum and college art studio. *Formerly ART 317.*

ART/PHIL 305. Seminar in Aesthetics. 3 credits. *Offered fall and spring.*

Readings and discussions in the persistent philosophical problems of the arts centering on consideration of the work of art, the artist and the audience. *Prerequisite: GART 200, GARTH 205, GARTH 206 or GPHIL 101. Formerly ART 380.*

ART 310. Special Effects. 3 credits. *Offered fall and spring.*

A studio and lecture course exploring various techniques for creating computer graphics events. Special effects may include smoke, fire, explosions, rocket/comet trails, lava, particles, hard and soft body dynamics, shattered objects, and more. *Prerequisites: ART 102 and ART 104.*

ART 313. Introduction to Art Therapy (1, 4). 3 credits. *Offered fall and spring.*

A survey dealing with the origins, historical development and major theoretical trends in the field of art therapy. Examines a variety of patient/client populations and treatment approaches. Visits to institutional settings will be included. Intended primarily for students in the arts, education and social sciences.

ART 322. Intermediate Ceramics: Surface Development (0, 9). 3 credits.

Offered spring.

Research and experimentation with ceramic materials and finishes, glaze formulation, and application for finishing ceramic artwork. Forming processes may include any combination of the potters wheel, handbuilding and mold making. *Prerequisite: ART 220 or ART 222 or by permission. Formerly ART 326.*

ART 323. Papermaking (0, 9). 1-3 credits, repeatable. *Offered fall and spring.*

A creative approach to handmade paper as an art medium. Emphasis will be on one-of-a-kind pieces. Cast paper, mould and deckle, mould formation, collage and assemblage techniques will be explored. *Prerequisites: ART 102 and ART 104.*

ART 320 Intermediate Ceramics: Molds & Casting (0, 9). 3 credits. *Offered fall.*

Mold-making systems and processes for ceramic slip casting and press molding. Conceptual issues of multiples, reproductions and material transformation discussed. Also suitable for students wanting to utilize molds with other materials in their artistic production. *Prerequisites: ART 220 or ART 222 or by permission.*

ART 328. Stained Glass (0, 9). 1-3 credits, repeatable. *Offering varies.*

A comprehensive course in the design and construction of stained glass panels or windows. Traditional glazing techniques of lead came and copper foil will be explored, as well as epoxy resin bonding of dalle de verre. Glass surface decorating techniques of sandblasting, etching, plating, fusing, glue chipping and painting will be demonstrated. *Prerequisites: ART 102 and ART 104.*

ART 330. Intermediate Weaving and Other Fiber Arts (0, 9). 3 credits.

Offered fall and spring.

Introduction to surface design techniques such as painting and printing on fabric. Further work may be in this area (in which case no prerequisites apply) or in weaving or other fiber techniques. *Prerequisite: ART 230 or permission of the instructor. Formerly ART 331.*

ART 340. Intermediate Metal and Jewelry (0, 9). 1-3 credits, repeatable. *Offered fall and spring.*

An intermediate course offering further exploration of metal as a medium of personal aesthetic expression as well as more advanced technical experience and experimentation. *Prerequisite: ART 240 or permission of the instructor. Formerly ART 333.*

ART 350. Figure Drawing (0, 9). 3 credits. *Offered fall and spring.*

An introductory course with problems stressing the fundamental skills, approaches and concepts involved in drawing the human figure. *Prerequisites: ART 104 and ART 108. Formerly ART 360.*

ART 352. Painting (0, 9). 3 credits. *Offered fall and spring.*

Introduction to basic materials and techniques in oil or acrylic painting. This class extends previous practice with design and drawing through introductory experiences in painting. *Prerequisites: ART 102 and ART 104. Formerly ART 362.*

ART 354. Watercolor (0, 9). 3 credits. *Offering varies.*

Study of and practice in transparent and opaque watercolor techniques. *Prerequisites: ART 102 and ART 104. Formerly ART 366.*

ART 360. Intermediate Photography: Experimental Black and White (0, 9). 3 credits. *Offered fall.*

Intensive exploration of advanced black and white photography using alternative cameras, pinhole, a variety of film speeds and papers, and sequential concepts. *Prerequisite: ART 260. Formerly ART 356.*

ART 362. Intermediate Photography: Digital (0, 9). 3 credits. *Offered fall and spring.*

An intensive exploration of digital photography with an introduction to digital camera techniques, combinations of traditional and digital photographic methods, image manipulation, and modes of output. *Prerequisite: ART 260. Formerly ART 357.*

ART 364. Intermediate Photography: Large Format (0, 9). 3 credits.

Offered spring.

An exploration of medium format and view camera techniques, film exposure, and advanced black and white printing. *Prerequisite: ART 260. Formerly ART 358.*

ART 380. Intermediate Sculpture (0, 9). 3 credits. *Offered fall and spring.*

A study in casting techniques for sculpture using the lost wax process. Foundry operations, cold cast methods, ceramic shell and fiberglass are also explored. *Prerequisite: ART 280. Formerly ART 336.*

ART 390. Independent Studies in Art. 1-3 credits. *Offering varies.*

Independent activity at the intermediate level, such as research or studio practice, under faculty supervision. Projected studies in any area of the school's offering must be arranged with the instructors who will direct them. Offered only with the consent of the instructor.

ART 392. Topics in Art. 3 credits. *Offering varies.*

Study of selected topics in art at the intermediate level. May be repeated when course content changes. See e-campus for current topics. *Formerly ART 389.*

ART 410. Advanced Animation (0, 9). 3 credits, repeatable. *Offered fall and spring.*

An advanced study of the complex aspects of natural human movement and expressions as they relate to the field of 3-D computer animation. This is a lecture/studio class in which complex character modeling and animation will be explored. The goal is to create original models that move and express themselves similarly to those found in the movie industry. *Prerequisite: ART 210. Formerly ART 448.*

ART 420. Advanced Ceramics: Portfolio Development (0, 9). 1-3 credits, repeatable. *Offered fall and spring.*

Self-directed, focused course of study with supervision of the instructor. This course is the culmination of ceramic study, resulting in a body of work suitable for exhibition and that is representative of the student's research and development. *Prerequisites: ART 320 and ART 322 or permission. Formerly ART 425.*

ART 430. Advanced Fiber Arts (0, 9). 1-3 credits, repeatable. *Offered fall and spring.*

A series of fiber projects selected by the student with the approval of the instructor. *Prerequisite: ART 330. Formerly ART 421.*

ART 440. Advanced Metal and Jewelry (0, 9). 1-3 credits, repeatable. *Offered fall and spring.*

A series of metal arts projects selected by the student with the approval of the instructor. *Prerequisite: ART 340. Formerly ART 422.*

ART 450. Advanced Figure Drawing. 1-3 credits, repeatable. *Offered once a year.*

An advanced drawing course stressing inventive and in-depth approaches to portraying the human figure. *Prerequisite: ART 350. Formerly ART 460.*

ART 452. Advanced Painting (0, 9). 1-3 credits, repeatable. *Offered fall and spring.*

Advanced problems in media selected by the student with the advice of the instructor. *Prerequisite: ART 352. Formerly ART 462.*

ART 454. Advanced Watercolor (0, 9). 1-3 credits, repeatable. *Offering varies.* Advanced problems in the use of watercolor and related water-based media. *Prerequisite: ART 354. Formerly ART 466.*

ART 460. Advanced Photography: Alternative Processes (0, 9). 1-3 credits, repeatable. *Offered spring.*

Advanced study in photography focusing on alternative processes and experimental approaches including non-silver 19th century techniques, Polaroid, and liquid emulsion, among others. *Prerequisite: ART 360, ART 362 or ART 364. Formerly ART 455.*

ART 462. Advanced Photography: Color (0, 9). 1-3 credits, repeatable. *Offered fall.*

Advanced study in color photography. *Prerequisite: ART 360, ART 362 or ART 364. Formerly ART 457.*

ART 464. Photography: Portfolio Development (0, 9). 1-3 credits, repeatable. *Offered fall and spring.*

An intensive exploration in photography focusing on a theme or process that results in a cohesive body of work from a self-directed project and a written artist's statement. *Prerequisite: ART 360, ART 362 or ART 364. Formerly ART 458.*

ART 470. Advanced Printmaking (0, 9). 1-3 credits, repeatable. *Offered fall and spring.*

Advanced projects in printmaking to be determined by the student and instructor. *Prerequisite: ART 270, ART 272 or ART 274 as appropriate. Formerly ART 454.*

ART 480. Advanced Sculpture (0, 9). 1-3 credits, repeatable. *Offered fall and spring.* Advanced study in sculpture focusing on projects chosen by the student in consultation with the instructor from an array of materials and processes used in contemporary sculpture. *Prerequisite: ART 380. Formerly ART 435.*

ART 490. Independent Studies in Art. 1-3 credits, repeatable. *Offered fall and spring.* Independent activity, such as research or studio practice, under faculty supervision. Projected studies in any area of the school's offering must be arranged with the instructors who will direct them. Offered only with consent of the instructor.

ART 491. Studio Assistant. 1-3 credits, repeatable. *Offered fall and spring.* An on-campus program monitored on an individual basis designed to provide practical studio experience in the visual arts. Students will learn safe studio practices and management skills, including material use, inventory control, and the proper operation of equipment found within various individual classroom studios. *Prerequisites: Permission of the instructor.*

ART 492. Topics in Art. 3 credits. *Offering varies.* Study of selected topics in art, art history, graphic design or interior design at the advanced level. May be repeated when course content changes. See e-campus for current topics.

ART 494. The Open Studio: An Interdisciplinary Approach to Creative Arts. 3 credits. *Offering varies.*

Introduction to the interdisciplinary studio through discussion of the history of interdisciplinary art and exposure to contemporary examples from dance, theatre, music, creative writing, visual art, film and video. Emphasis on production of original work that evidences the use of another media or collaborative work by artists from different disciplines. *Prerequisites: Permission of the instructor(s) and advanced skill level in one or more of the creative arts. Formerly ART 450.*

ART 496. Internship in Art. 1-8 credits. *Offered fall and spring.* An off-campus program prepared and monitored on an individual basis. Internships are designed to provide practical experience in the arts. *Prerequisites: Permission of the instructor and ARTH 394 if in museums and galleries.*

ART 499. Honors. 6 credits total for three semesters (1, 3, 2). *Offered fall and spring.*

Art Education

School of Art and Art History

ARED 300. Art Activities in the Elementary School. (1, 4). 3 credits. *Offered fall and spring.*

A study of the aims and philosophy of art education in elementary school with an emphasis on child growth and development through art. Experience with art techniques and materials suitable from nursery school through grade eight with emphasis on appropriate motivational and teaching methods. Includes intensive field experiences for elementary grade levels. *Formerly ART 310.*

ARED 302. Secondary Art Education Methods. 3 credits. *Offered fall and spring.*

The study of art education methods, philosophy and contemporary practices as related to the middle and senior high school in public education. Includes class presentations, observation and practicum in the secondary grades. *Prerequisites: PSYC 270 and EDUC 360. Formerly ART 311.*

ARED 390. Independent Studies in Art Education. 1-3 credits. *Offering varies.* Independent activity at the intermediate level, such as research or studio practice, under faculty supervision. Projected studies in any area of the school's offering must be arranged with the instructors who will direct them. Offered only with the consent of the instructor.

ARED 392. Topics in Art Education. 3 credits. *Offering varies.* Study of selected topics in art education at the intermediate level. May be repeated when course content changes. See e-campus for current topics. *Formerly ART 389.*

ARED 400. Visual Arts Across the Curriculum (1, 4). 3 credits. *Offered fall and spring.*

Explores ways in which the art teacher can promote relationships between art and other subjects within the public school curriculum. Emphasis will be placed on how art experiences can be used to teach skills and concepts associated with other subjects. Includes a range of intensive field experiences at the middle grade level. *Formerly ART 318.*

ARED 490. Independent Studies in Art Education. 1-3 credits, repeatable. *Offered fall and spring.*

Independent activity, such as research or studio practice, under faculty supervision. Projected studies in any area of the school's offering must be arranged with the instructors who will direct them. Offered only with consent of the instructor.

ARED 491. Studio Assistant. 1-3 credits, repeatable. *Offered fall and spring.* An on-campus program monitored on an individual basis designed to provide practical studio experience in the visual arts. Students will learn safe studio practices and management skills, including material use, inventory control, and the proper operation of equipment found within various individual classroom studios. *Prerequisites: Permission of the instructor.*

ARED 496. Internship in Art Education. 1-8 credits. *Offered fall and spring.* An off-campus program prepared and monitored on an individual basis. Internships are designed to provide practical experience in the arts. *Prerequisites: Permission of the instructor and ARTH 494 if in museums and galleries.*

Art History

School of Art and Art History

GARTH 205. Survey of World Art I: Prehistoric to Renaissance. 3 credits. *Offered fall and spring.*

An introduction to the art and architecture of the world from cave painting through European pre-Renaissance art. Includes ancient through medieval art in Europe and the Near East, as well as Asian and African arts.

GARTH 206. Survey of World Art II: Renaissance to Modern. 3 credits. *Offered fall and spring.*

Introduction to art and architecture of the world from the Renaissance through Modern ages. Includes European Renaissance, Baroque, Enlightenment, 19th and 20th centuries, as well as Asian and African arts.

ARTH 210. African Art and Culture in the Humanities. 3 credits. *Offered fall and spring.*

An interdisciplinary introduction to African art and culture with topics focusing on life ways, music, religion, philosophy, art, literature and cinema. This course provides a strong background for upper-division course work in the arts of African and the African Diaspora, as well as for students pursuing degrees in history and anthropology. May be counted as **GHUM 252**.

ARTH 300. Art History Seminar. 3 credits. *Offered fall and spring.*

Exploration of various methodological approaches in the history of art, including connoisseurship, iconography, formalism, psychological studies and interpretations of art and society. Students will examine contrasting interpretations of major works of art. Seminar format. Fulfills the College of Visual and Performing Arts writing-intensive requirement for the major. *Prerequisite: GARTH 205, GARTH 206 or permission of the instructor.*

ARTH 303. History of Design. 3 credits. *Offered fall and spring.*

This course is an investigation into the domains of graphic and industrial design. The material will explore these disciplines through reading, lecture and an acquired visual literacy of the contextual, ideational and philosophic agendas.

ARTH 304. History of Photography. 3 credits. *Offered fall and spring.*

A survey of photography as an art form from its discovery to the present day. Emphasis is on 20th-century developments and recent contemporary trends.

ARTH 305. History of Decorative Arts. 3 credits. *Offered fall and spring.*

A history of the decorative arts in Europe and America from c. 1200 to c. 1930. This course provides a stylistic and contextual analysis, concentrating on domestic furnishings, including textiles, furniture, metals, ceramics and glass. *Prerequisite: GARTH 205 or GARTH 206.*

ARTH 310. African Art: The Sahara and Northern Sahel. 3 credits. *Offered fall and spring.*

An introduction to the arts and cultures of northern and northwestern Africa. The diverse, rich heritage of Africa's arts will be explored through the major style areas of Saharan and northern sub-Saharan Africa including prehistoric rock arts, Egypt, northern Africa, Christian northeastern Africa and Islamic North Africa.

ARTH 312. African Art: Sub-Saharan. 3 credits. *Offered fall and spring.*

A survey of the arts and cultures of sub-Saharan Africa, focusing on the major style areas of the continent. Coverage will include: the historic sites of Nigeria, the Guinea Coast, and central, eastern, and southern Africa. *Prerequisite: GARTH 205, GARTH 206 or permission of instructor.*

ARTH 313. Masterpieces of Italian Renaissance Art. 3 credits.

(Semester in Florence only.) Offered fall and spring.

A survey of Italian Renaissance painting and sculpture (1280-1550), including the works of Giotto, Donatello, Masaccio, Fra Angelico, Botticelli, Leonardo and Michelangelo. Weekly visits to the Uffizi, San Marco, the Accademia and other Florentine museums.

ARTH 314. Masterpieces of Spanish Art. 3 credits. *(Semester in Salamanca only.) Offered fall and spring.*

A survey of art in Spain from prehistoric cave painting through 20th-century art. Emphasis is given to 17th-18th century Baroque and modern artists including El Greco, Velasquez, Goya, Gaudi and Picasso. Visits to Altamira, the Alhambra, the Prado, Toledo, Santillana del Mar and other sites.

ARTH 315. Masterpieces of British Architecture. 3 credits. *(Semester in London only.) Offered fall and spring.*

This history and theory of British architecture from prehistoric to modern times. Weekly visits to the British Museum, Hampton Court, Avebury, Bath, Chiswick, the Victoria Albert Museum and other monuments.

ARTH 316. Masterpieces of British Art. 3 credits. *(Semester in London only.) Offered fall and spring.*

Survey of painting and sculpture in Britain (1530-1860) concentrating on 18th/19th-century painting. British art is viewed in the context of European civilization. Weekly visits to London museums including the Portrait Gallery, Sir John Soane's House, the Wallace Collection and the Tate Gallery.

ARTH 317. Masterpieces of French Art. 3 credits. *(Semester in Paris only.) Offered fall and spring.*

A survey of French art from the Middle Ages to the modern day. Weekly visits to the major museums of Paris including the Louvre, the Musee D'Orsay, Cluny and Centre Pompidou.

ARTH 320. Travel Study in Art History. 3 credits. *Offered fall and spring.*

Art history credit is available to students participating in formal travel study programs with an emphasis on art history. Students maintain a journal with an emphasis on their art history experiences and write a research paper. *Prerequisites: Permission of the program leader and art history coordinator.*

ARTH 322. Ancient Art. 3 credits. *Offered fall and spring.*

A comparative study of major examples of art and architecture from the ancient world. Certain selected topics in pottery, painting and numismatic arts will be studied in depth. *Prerequisite: GARTH 205 or permission of the instructor.*

ARTH 340. Early Medieval Art. 3 credits. *Offered fall and spring.*

Survey of Early Christian, Hiberno-Saxon and Byzantine art 300-1200. Examines painting, mosaics, manuscripts illumination and the development of church design in Italy and the Byzantine World. Considers cross-fertilization of Pagan, Christian, Islamic and Barbarian arts in Western Europe in the Early Middle Ages. *Prerequisite: GARTH 205 or permission of the instructor.*

ARTH 346. Italian Renaissance Art. 3 credits. *Offered fall and spring.*

A survey of the development of Italian Renaissance art and architecture 1300-1550, including the revival of classical art, the development of Humanism, the invention of perspective and the formation of the High Renaissance style. *Prerequisite: GARTH 206 or permission of the instructor.*

ARTH 360. Nineteenth Century Art. 3 credits. *Offered fall and spring.*

A study of European art (1750-1890) concentrating on Neoclassicism, Romanticism, Realism, Impressionism and Post-Impressionism in France. *Prerequisites: GARTH 206 or permission of the instructor.*

NDE 370. History of Interior Design. 3 credits. *Offered fall and spring.*

Survey of the evolution of design in interiors from ancient to modern times with emphasis on period and furniture styles and architectural backgrounds.

ARTH 372. Modern Art from 1900-1945. 3 credits. *Offered fall and spring.*

A survey of European and American painting and sculpture from 1890 to the present day. Cubism and its off-shoots, Surrealism, American Abstract Expressionism, Pop art, Contemporary Conceptual art and Realism are among the movements studied. *Prerequisite: GARTH 206 or permission of the instructor.*

ARTH 376. Modern Architecture. 3 credits. *Offered fall and spring.*

A study of European and American architecture from 1750 to the present day. Twentieth-century architects, such as Frank Lloyd Wright, Le Corbusier and Mies van der Rohe are emphasized. *Prerequisites: GARTH 206 or permission of the instructor.*

ARTH 380. American Art to 1870. 3 credits. *Offered fall and spring.*

American painting, sculpture, architecture and decorative arts from the Colonial period through 1870. Topics will include Colonial portraiture,

African American aesthetics, the definition of folk art, nationalism and landscape painting, and the question of American exceptionalism. The course will also introduce students to problems of interpretation in current scholarship. *Prerequisites: GARTH 206 or permission of the instructor.*

ARTH 382. American Art from 1870. 3 credits. *Offered fall and spring.*

American painting, sculpture, architecture and decorative arts from 1870 to 1945. This course will address topics such as the American Renaissance, the Harlem Renaissance, Chicago School architecture, masculinity in Western American art, notions of decay in turn-of-the-century art, and American modernism. It will also introduce methodological debates in current scholarship. *Prerequisites: GARTH 206 or permission of the instructor.*

ARTH 389. Topics in Art History. 3 credits. *Offering varies.*

Study of selected topics in art, art education, art history, graphic design, interior design or industrial design at the intermediate level. May be repeated when course content changes. See e-campus for current topics.

ARTH 390. Independent Studies in Art History. 1-3 credits. *Offering varies.*

Independent activity at the intermediate level, such as research or studio practice, under faculty supervision. Projected studies in any area of the school's offering must be arranged with the instructors who will direct them. Offered only with the consent of the director.

ARTH/HIST 394. Introduction to Museum Work. 3 credits. *Offered fall and spring.*

A study of the philosophy and practice of museum work including the areas of exhibit design, conservation registration, education and administration. Subject is taught from the perspective of the museum profession and is applicable to diverse discipline and types of collections.

ARTH/HIST 396. Introduction to Public History. 3 credits. *Offered fall and spring.*

An introduction to the varied and interdisciplinary "field" of public history, such as community/local history, historic preservation, archives, historical archaeology, museum studies, business and policy history, documentary editing and publishing, and documentary films, through readings, class discussions, occasional guest speakers and occasional field trips.

ARTH/HIST 408. The Museum: Histories and Controversies. 3 credits.

Offered every other spring as of spring 2007.

This seminar centers on art museums in the United States. Topics include the historical development of museums, related cultures of display, recent debates on institutional mission and responsibility, and contemporary artists who employ the museum as medium, subject matter or site. Required field trips. *Prerequisite: GARTH 206 or permission of instructor.*

ARTH 410. African Art: The Sahara and Northern Sahel. 3 credits.

Offered fall and spring.

An introduction to the arts and cultures of northern and northwestern Africa. The diverse, rich heritage of Africa's arts will be explored through the major style areas of Saharan and northern sub-Saharan Africa including prehistoric rock arts, Egypt, northern Africa, Christian northeastern Africa and Islamic North Africa.

ARTH 419. Topics in African Art. 3 credits. *Offered fall and spring.*

Topics in African art will deal with the current thematic or methodological issues such as contemporary African arts and artists, arts of the African Diaspora, a particular media (such as architecture or the textile arts), portraiture and identity, the royal arts of Africa, African film and performance, or gender in the arts of Africa. *Prerequisite: GARTH 205, GARTH 206, ARTH 210 or permission of the instructor.*

ARTH 424. Arts of Ancient Egypt. 3 credits. *Offered fall and spring.*

A study of the arts and culture of Ancient Egypt (c. 3000 B.C. to c. 300 B.C.). This course will focus on the art and architecture of the Old and New Kingdoms and also examine the enduring fascination with this unique artistic heritage from the excavations of Napoleon to the present. *Prerequisite: GARTH 205 or GARTH 206.*

ARTH 430. Far Eastern Art. 3 credits. *Offered fall and spring.*

A survey of East Asian art from prehistoric times to 19th century colonialism. Emphasis is on the areas of major production: India, China and Japan, with less attention to such centers as Cambodia, Siam and Korea. *Prerequisite: GARTH 205 or GARTH 206.*

ARTH 442. Art of Later Middle Ages. 3 credits. *Offered fall and spring.*

A study of Western European arts and architecture in the later Middle Ages with concentration on Romanesque and Gothic styles (1000-1400). Examines church construction and allied arts around the millennium and the development of Gothic architecture, sculpture and painting in France, Italy and England. *Prerequisite: GARTH 205 or permission of the instructor.*

ARTH 444. Gothic and Gothic Revival Architecture. 3 credits. *Offered fall and spring.*

Survey of Gothic architecture in France, England and Italy 1150-1500 and its influence in England and America 1750-1910. Examines the design of major cathedrals and regional European Gothic styles. Explores their influence upon Walpole, Pugin, Ruskin and other champions of Gothic Revival. *Prerequisite: GARTH 205, GARTH 206 or permission of the instructor.*

ARTH 448. Studies in Leonardo and Michelangelo. 3 credits. *Offered fall and spring.*

Seminar that examines the artworks of Leonardo da Vinci and Michelangelo Buonarroti. Discusses issues such as the artist's creative process, the development of the artist's style, the patron's role in artwork and inter-relationships between the artist's visual and literary works. *Prerequisite: GARTH 206 or permission of the instructor.*

ARTH 449. Topics in Renaissance Art. 3 credits. *Offered fall and spring.*

Topics in Renaissance art may include studies of major Italian or Northern Renaissance artists, the development of linear perspective, the Renaissance tomb chapel, or art and politics of the Protestant Reformation. *Prerequisite: GARTH 206 or permission of the instructor.*

ARTH 450. Baroque Art. 3 credits. *Offered fall and spring.*

A survey of European art and architecture of the 17th century. This course will focus on Baroque art and its cultural context in Italy, France, Britain and Holland. *Prerequisite: GARTH 206 or permission of the instructor.*

ARTH 452. Eighteenth Century Art. 3 credits. *Offered fall and spring.*

A survey of the major European artistic movements of the 18th century. This course will focus on the development of the Rococo and Neo-classical styles in architecture, sculpture and painting. *Prerequisite: GARTH 206 or permission of the instructor.*

ARTH 459. Topics in Seventeenth and Eighteenth Century Art. 3 credits. *Offered fall and spring.*

Topics in this course may include studies of particular artists such as Rembrandt, Caravaggio or Watteau, studies of particular styles such as the Rococo or thematic studies such as the history of garden design or the development of art theory. *Prerequisite: GARTH 206 or permission of the instructor.*

ARTH 466. Art and Nationalism. 3 credits. *Offered every other fall.*

Advanced seminar examining the intersection between art and nationalism from the late-eighteenth century to the present. Topics may include propaganda, monuments and the construction of national memory. Particular attention will be devoted to the shifting nature of commemorative practice throughout the modern period. *Prerequisite: GARTH 205, GARTH 206 or permission of the instructor.*

ARTH 469. Topics in Nineteenth Century Art. 3 credits. *Offered fall and spring.*

Topics in nineteenth century art may include studies of major artists, such as Caspar David Friedrich or Edouard Manet, specific artists groups like the pre-Raphaelite brotherhood, or thematic issues such as the relationship between art and nationalism. *Prerequisite: GARTH 206.*

ARTH 472. Modern Art Since 1945. 3 credits. *Offered fall and spring.*

A study of the many developments and trends in American and European art since 1945. This course will focus on such movements as abstract expressionism, pop, conceptual art, installation art, video, film and computer art with an understanding of the theoretical basis of those movements and the development of the art market during this period. *Prerequisite: GARTH 206 or permission of the instructor.*

ARTH 474. The New Media and Contemporary Art. 3 credits. *Offered fall and spring.*

Advanced seminar that addresses the impact of cultural politics and technology on how we make, evaluate and "speak" about art. Focus on a variety of media including video, multi-media installations, conceptual art, computer generated imagery, virtual "reality," contemporary film and digital photography. *Prerequisite: ARTH 372, ARTH 472 or permission of the instructor.*

ARTH 476. Modern Architecture. 3 credits. *Offered fall and spring.*

Survey of architecture from 1851 to the present day. Thematic investigations will include regional, philosophical and technical developments in architectural space. Architects may include Labrousse, Berlage, Wagner and Richardson, through Wright, Mies, Le Corbusier, to the avant-garde Murcutt, Siza, Nouvel and Mockbee. *Prerequisite: GARTH 206 or permission of the instructor.*

ARTH 479. Topics in Twentieth Century Art. 3 credits. *Offered fall and spring.*

Topics in twentieth century art may include studies of contemporary

painters (i.e., Gerhard Richter), sculptors (i.e., Kiki Smith or Mona Hatoum), performance and video artists (i.e., Bill Viola) or thematic issues such as the relationships between art, technology and gender/racial politics. *Prerequisite: ARTH 372, ARTH 472 or permission of the instructor.*

ARTH 480. American Art to 1870. 3 credits. *Offered fall and spring.*

American painting, sculpture, architecture and decorative arts from the Colonial period through 1870. Topics will include Colonial portraiture, African American aesthetics, the definition of folk art, nationalism and landscape painting, and the question of American exceptionalism. The course will also introduce students to problems of interpretation in current scholarship. *Prerequisite: GARTH 206 or permission of instructor.*

ARTH 482. American Art from 1870. 3 credits. *Offered fall and spring.*

American painting, sculpture, architecture and decorative arts from 1870 to 1945. The course will address topics such as the American Renaissance, the Harlem Renaissance, Chicago School architecture, masculinity in Western American art, notions of decay in turn-of-the-century art and American modernism. It will also introduce methodological debates in current scholarship. *Prerequisite: GARTH 206 or permission of instructor.*

ARTH 484. Art of the Americas. 3 credits. *Offered fall and spring.*

Art of indigenous peoples in the Americas (Meso, Central, South and/or North) before European contact. The course will examine domestic and state architecture, painting, textiles, ceramics, metalwork, and earthworks within the context of geographic, state, religious and social issues. Other topics include museum display, repatriation and western taxonomies.

ARTH/HIST 486. Monticello. 3 credits. *Offered fall and spring.*

A seminar on the architecture and material culture of Thomas Jefferson's Monticello. The course will examine the house's design, artwork, decorative arts, mechanical devices, landscape/garden design and Mulberry Row. Topics will include African American artisans at the Monticello joinery, Jefferson's Indian Hall, and European and African American domestic life in the Federal Period. Required field trips. *Prerequisite: Permission of the instructor.*

ARTH 489. Topics in Art History. 3 credits. *Offered fall and spring.*

Study of selected topics in art history at the advanced level. May be repeated when course content changes. See e-campus for current topics.

ARTH 490. Independent Studies in Art History. 1-3 credits, repeatable. *Offered fall and spring.*

Independent activity, such as research or studio practice, under faculty supervision. Projected studies in any area of the school's offering must be arranged with the instructors who will direct them. Offered only with consent of the instructor.

ARTH/ANTH/HIST 492. American Material Culture. 3 credits. *Offered fall and spring.*

A broad introduction to the multidisciplinary "field" of material culture studies through readings, written assignments, in-class exercises and field trips. The course introduces ways of looking at and learning from objects and examines how scholars from several disciplines have used material culture in their work. *Prerequisite: HIST 395. Instructor's permission required to waive HIST 395 prerequisite for non-history majors.*

ARTH/HIST 493. Historic Preservation. 3 credits. *Offered fall and spring.*

An introduction to the philosophy and techniques of historic preservation, guidelines for restoration, state and national register forms and procedures, historic architecture, structural analysis, restoration techniques, as well as the business aspects of historic preservation projects. Field trips are a major component of the course. *Prerequisite: HIST 395. Instructor's permission required to waive HIST 395 prerequisite for non-history majors.*

ARTH/HIST 494. Introduction to Museum Work. 3 credits. *Offered fall and spring.*

A study of the philosophy and practice of museum work including the areas of exhibit design, conservation registration, education and administration. Subject is taught from the perspective of the museum profession and is applicable to diverse disciplines and types of collections.

ARTH 495. Internship in Art History. 1-3 credits. *Offered fall and spring.*

An off-campus program prepared and monitored on an individual basis. Internships are designed to provide practical experience in the arts. Offered only with the consent of the instructor and the director. ARTH 394 is a prerequisite for internships in museums and galleries. *Prerequisites: Permission of the instructor. ARTH 394 if in museums and galleries.*

ARTH 499. Honors. 6 credits total for three semesters (1, 3, 2). *Offered fall and spring.*

Astronomy

Department of Physics and Astronomy

***ASTR 120. The Solar System.** 3 credits. *Offered once a year.*

An introductory course in astronomy, which includes the following topics: motions of celestial objects, eclipses, historical development, the nature of light, telescopes, properties and evolution of the solar system. Students may not receive credit for ASTR 120/121 and PHYS 120/121.

***ASTR 121. Stars, Galaxies and Cosmology.** 3 credits. *Offered once a year.*

An introductory course in astronomy which includes the following topics: the Sun, stellar properties, stellar evolution, black holes, the Milky Way, galactic evolution, quasars, cosmology. Students may not receive credit for ASTR 120/121 and PHYS 120/121.

ASTR 220. General Astronomy I: The Night Sky, the Solar System and Stars. 3 credits. *Offered once a year.*

ASTR 220 is the first in a two-course sequence in general astronomy intended for students with a background in physics. Topics covered include: appearance and movements of the night sky; astronomical coordinate systems and timekeeping; seasons, eclipses and planetary configurations; planetary motions and gravitation; fundamental forces; electromagnetic radiation and its detection; content, structure, formation and evolution of solar system; observations and models of the Sun, stellar interior models; stellar magnitudes and spectra, classifications; Hertzsprung-Russell diagram. *Prerequisite: PHYS 140 or PHYS 240.*

ASTR 221. General Astronomy II: Star Systems, the Interstellar Medium and Cosmology. 4 credits. *Offered once a year.*

ASTR 221 is the second in a two-course sequence in general astronomy intended for students interested in science. Topics covered include: stellar evolution; variability and high-energy phenomena in stars and multiple-star systems; content, structure, and dynamics of the Milky Way; external galaxies, quasars and AGN; large-scale structure and the distance scale of the universe; the Big Bang model and alternative cosmologies, possible geometries and eventual fates of the universe. An observational astronomy laboratory component is part of this course. The lab component will cover basics of telescope set up and operation as well as astronomical coordinate systems. *Prerequisite: ASTR 220.*

ASTR 297. Topics in Astronomy. 1-4 credits. *Offered on demand.*

Topics in astronomy at the second year level. May be repeated for credit when course content changes. Topics selected may dictate prerequisites. Students should consult instructor prior to enrolling for course. *Prerequisite: Permission of the instructor.*

ASTR 301. Searching for Life in the Universe. 3 credits. *Offered spring.*

A study of the search for life in the universe, with emphasis on teacher preparation. Topics include how life on earth can guide the search, conditions for life within our solar system, extrasolar planets that may be conducive to life, possible radio communications with other civilizations and technologies necessary for search. Significant time is spent developing student lesson plans. *Prerequisites: GSCI 161, GSCI 162, GSCI 163 and GSCI 164.*

ASTR 320. Astronomical Techniques. 3 credits. *Offered on demand.*

An overview of modern astronomical techniques with an emphasis on quantitative data collection and analysis. The design and use of various astronomical devices will be covered. Topics will include visible light telescopes and radio telescopes as well as CCD data collection in addition to other current astronomical techniques. Data reduction software will also be addressed. *Prerequisites: ASTR 220 and ASTR 221.*

ASTR 397. Topics in Astronomy. 1-4 credits. *Offered on demand.*

Topics in astronomy at the intermediate level. May be repeated for credit when course content changes. Topics selected may dictate prerequisites. Students should consult instructor prior to enrolling for course. *Prerequisite: Permission of the instructor.*

ASTR/PHYS 398. Independent Study in Physics or Astronomy.

1-3 credits, repeatable to 4 credits. *Offered on demand.*

An individual project related to some aspect of physics or astronomy. Must be under the guidance of a faculty adviser. A student may not earn more than a total of four credits for PHYS 398 and ASTR 398.

ASTR 480. Astrophysics. 3 credits. *Offered on demand.*

An introduction to the problems of modern astronomy and the quantitative application of physical principles to these problems. Topics of study include stellar structure and evolution, the interstellar medium and star formation, cosmic rays, pulsars, galactic structure, extragalactic astronomy and cosmology. *Prerequisites: PHYS 340 and PHYS 380.*

ASTR 497. Topics in Astronomy. 1-4 credits. *Offered on demand.*

Topics in astronomy at the advanced level. May be repeated for credit when course content changes. Topics selected may dictate prerequisites. Students should consult instructor prior to enrolling for course. *Prerequisite: Permission of the instructor.*

ASTR/PHYS 498R. Undergraduate Research in Physics or

Astronomy. 1-4 credits, repeatable to 6 credits. *Offered on demand.*

Research in a selected area of physics or astronomy as arranged with a faculty research advisor. A student may not earn more than a total of six credits for PHYS 498R and ASTR 498R. *Prerequisite: Proposal for study must be approved prior to registration.*

Athletic Training Education Program

Department of Health Sciences

ATEP 205. Introduction to Athletic Training (2, 2). 3 credits. *Offered fall, spring and summer.*

This course provides a broad introduction to the profession of athletic training. Lectures will focus on the domains of athletic training. Emphasis will be placed on basic emergency management as well as injury prevention including environmental issues, strength and conditioning, and selection of equipment. Laboratory will mirror lecture. *Prerequisite: ATEP or HS major, coaching minor, or permission of instructor.*

ATEP 206. Recognition and Management of Athletic Injuries. 3 credits.

Offered spring and summer.

Building on the concepts learned in ATEP 205, the course will emphasize the recognition of common athletic injuries. Pathology, mechanisms of injury, signs and symptoms, evaluation findings, and basic management of injuries will be explored. Athletic injuries of special populations will also be addressed. *Prerequisites: BIO 290 and ATEP 205 with a grade of "C" or better.*

ATEP 291. Pre-Professional Practicum in Athletic Training. 2 credits.

Offered spring.

This course is designed to help students better understand the duties and responsibilities of the athletic trainer. By focusing on psychomotor skills and the application of didactic knowledge, students build a foundation which prepares them for future clinical rotations. *Prerequisite: Permission of the instructor.*

ATEP 304A. Lower Quarter Evaluation (2, 2). 3 credits. *Offered fall.*

This course systematically focuses on orthopedic and neurological evaluation including functional testing of athletic injuries. The lower quarter consists of the lower extremity, pelvis and lumbar spine. Other topics include management of internal injuries and sudden death related to athletic participation. *Prerequisite: ATEP 206 and admission to the clinical component of the athletic training curriculum.*

ATEP 304B. Upper Quarter Evaluation (2, 2). 3 credits. *Offered spring.*

This course systematically focuses on orthopedic and neurological evaluation including functional testing of athletic injuries. The upper quarter consists of the upper extremity, head, neck and thorax. Other topics include management of crisis situations and facial injuries related to athletic participation. *Prerequisite: ATEP 304A.*

ATEP 305. Rehabilitation in Athletic Training: Lower Extremity (2, 2).

3 credits. *Offered spring.*

This course explains the rehabilitation process of lower extremity muscular and joint injuries related to athletic activities. Additional topics include rehabilitation facility design, budget preparation and pre-season assessment. *Prerequisite: BIO 290 and admission to the clinical component of the athletic training curriculum.*

ATEP 306. Therapeutic Modalities (3, 2). 4 credits. *Offered fall.*

This course provides a thorough overview of tissue injury, inflammatory response, healing process and neurophysiology applied to musculoskeletal injuries. Theory, application and clinical decision-making processes using therapeutic modalities during rehabilitation will be emphasized. Documentation, purchasing and maintenance are also addressed. *Prerequisites: ATEP 206 and admission to the clinical component of the athletic training curriculum.*

ATEP 307. Field Applications in Athletic Training. 2 credits. *Offered fall.*

This course is designed for athletic training students to meet the educational competencies for national accreditation in the following areas: development of risk management/emergency action plans, prevention of

injuries associated with the physically active, utilization of diagnostic tools and an overall understanding of protective equipment. *Prerequisite: Admission to clinical component of athletic training curriculum.*

ATEP 350. Measurements and Testing in Athletic Training. 2 credits. Offered fall.

The purpose of this course is to introduce and develop proficiency with measurement techniques frequently used in athletic training. Students will learn clinical evaluation techniques such as manual muscle testing, goniometry, volumetric measurements and girth measurements. How these measures are used in research will also be presented. *Prerequisite: Admission to clinical component of athletic training curriculum.*

ATEP 355. Infectious Disease Control. 1 credit. Offered spring. Discussion includes theories of origins, statistics and characteristics of the causative pathogen, incubation, illness patterns, transmission, prevention and treatment of infectious and noninfectious disease. Emphasis is placed on STDs, HIV, Hepatitis and OSHA regulations. *Prerequisite: Admission to clinical component of athletic training curriculum.*

ATEP 376. Pharmacology for Athletic Trainers. 2 credits. Offered fall. This course is designed for students to understand knowledge, skills and values that an entry-level certified athletic trainer must possess in pharmacological applications, including awareness of the indications, contraindications, precautions and interactions of medications, and the governing regulations relevant to physically active individuals. *Prerequisite: Admission to clinical component of athletic training curriculum.*

ATEP 377. General Medicine in Athletic Training. 2 credits. Offered spring. This course is designed for students to understand knowledge, skills and values that an entry-level certified athletic trainer must possess in order to recognize, treat and refer when dealing with general medical conditions and disabilities related to athletes or others involved in physical activity. *Prerequisite: Admission to clinical component of athletic training curriculum.*

ATEP 392. Level II Practicum in Athletic Training. 3 credits. Offered fall. This course focuses on clinical performance and application of didactic knowledge. Clinical rotations, clinical competencies, inservices, case studies and professional journals are included in course content. Sport specific activities and clinical applications involving palpation and wound care are key components of this course. August preseason orientation and clinical participation required. *Prerequisite: Admission to clinical component of athletic training curriculum.*

ATEP 393. Level III Practicum in Athletic Training. 2 credits. Offered spring. This course focuses on clinical performance and application of didactic knowledge. Clinical rotations, clinical competencies, inservices, case studies and professional journal are included in course content. Sport specific activities and clinical applications involving manual muscle testing and equipment fitting are key components of this course. *Prerequisite: ATEP 392.*

ATEP 405. Rehabilitation in Athletic Training: Upper Extremity. 3 credits. Offered fall.

This course explains the rehabilitation process of upper-extremity muscular and joint injuries related to athletic activities. Additional topics include prevention of athletic injuries and aquatic rehabilitation. *Prerequisite: ATEP 305.*

ATEP 406. Organization and Administration in Athletic Training. 3 credits. Offered spring.

This course is an overview of managerial issues including legal concerns, OSHA guidelines, budgeting/purchasing and staffing. In addition, this course provides a variety of experiences culminating in the knowledge and skills needed to meet entry-level competencies set by the National Athletic Trainers' Association. *Prerequisite: Permission of the instructor.*

ATEP 494. Level IV Practicum in Athletic Training. 2-3 credits. Offered fall. This course focuses on clinical performance and application of didactic knowledge. Clinical rotations, clinical competencies, inservices, case studies, and professional journal are included in course content. Sport specific activities and clinical applications involving orthopedic testing and emergency internal abdominal/chest evaluation are key components. *Prerequisite: ATEP 393.*

ATEP 495. Level V Practicum in Athletic Training. 2 credits. Offered spring. This course focuses on clinical performance and application of didactic knowledge. Clinical rotations, clinical competencies, inservices, case studies and professional journal are included in course content. Sport specific activities and clinical applications involving cranial nerve assessment and neurological evaluation are key components of this course. *Prerequisite: ATEP 494.*

Biology

Department of Biology

GBIO 103. Contemporary Biology (3, 0). 3 credits.

An in-depth exploration of selected biological concepts connected to current, relevant topics and emphasizing an understanding of science as a way of obtaining knowledge. Not available for major or minor credit in biology or biotechnology. *Formerly GSCI 103.* Students may not receive credit for both GSCI 103 and GBIO 103.

***BIO 114. Organisms (3, 3).** 4 credits. Offered fall and spring.

An exploration of how diverse life forms carry out fundamental processes that sustain life, including acquiring and using essential molecules, growing and reproducing, responding to environmental stimuli, and maintaining a stable internal environment. Labs will introduce students to the scientific method in a series of investigative lab and field experiences.

BIO 124. Ecology and Evolution (3, 3). 4 credits. Offered fall, spring and summer. In this course students will learn about variation within populations, the mechanisms of evolution, phylogeny and classification, population and community ecology, animal behavior and ecosystems dynamics. Labs will include investigations in laboratory and field settings. *Prerequisite: Grade of "C-" or better in BIO 114.*

BIO 201. Trelawny Learning Community Seminar (3, 0). 3 credits. Offered fall.

An introduction to the biology major for first year students living in the Trelawny Learning Community. Topics will include research opportunities, careers, case studies and current topics. Faculty and upper class students from the department will interact with this course to provide different perspectives about the biology major. *Prerequisite: Membership in the Trelawny Learning Community.*

BIO 203/ISAT 165. Viral Discovery (0, 3). 1 credit. Offered fall.

This course is an exploratory laboratory experience, designed for incoming freshmen. In the course, the students will learn about the life cycle and ecology of viruses infecting bacteria. Soil samples will be collected, and techniques for isolation and purification of the viruses will be performed by the students. Isolated viruses will be visualized using electron microscopy. The genomic material will be isolated and prepared for nucleic acid sequencing.

BIO 204/ISAT 166. Viral Genome and Bioinformatics (0,4). 2 credits. Offered spring.

This is a computer-based laboratory experience, designed for those students completing the Viral Discovery course. Students will learn how to identify genes in a viral genome, compare the predicted proteins with known proteins in databases, describe the contents of the genome and note all the relevant information for publication. Students will also research the ecology of soil and the role played by bacteriophages in ecology and evolution. *Prerequisites: BIO 203 or ISAT 165.*

BIO 214. Cell and Molecular Biology (3, 3). 4 credits. Offered fall and spring.

Students will explore the physiology, metabolism and reproductive biology of prokaryotic and eukaryotic cells. Topics will include the structure and function of macromolecules, theoretical and mechanistic aspects of metabolism, bioenergetics and signal transduction. Labs will include investigations that introduce students to various biochemical techniques. Credit may not be earned in both BIO 214 and BIO 220. *Prerequisites: Grades of "C-" or better in BIO 114 and either CHEM 131, CHEM 120 or permission of the instructor.*

BIO 220. Cell Biology. (3, 0) 3 credits. Offered periodically.

A comparative and theoretical coverage of basic aspects of cell structure and function common to most biological systems, including integration of cell theory, metabolism and gene action. Credit may not be earned in both BIO 220 and CHEM 222. *Prerequisite: CHEM 132, CHEM 120 or equivalent. Credit may not be earned in both BIO 220 and BIO 214.*

BIO 224. Genetics and Development (3, 3). 4 credits. Offered fall and spring.

The final course in the introductory series will explore how genetic information is utilized throughout the lifetime of the organism. Labs will make use of common model organisms highlighting the growing base of knowledge on the genetics and molecular biology of developmental processes. Credit may not be earned in both BIO 224 and BIO 230. *Prerequisites: Grade of "C-" or better in BIO 214.*

BIO 230. Genetics (3, 3). 4 credits. Offered periodically.

A study of the major principles of biological inheritance through lectures, readings, experimentation and discussions. Credit may not be earned in both BIO 230 and BIO 224. *Prerequisites: BIO 120 and BIO 130.*